

## **PATENT CLAIMS**

1. A method for determining the mass of portioned units of active substances, in particular capsules, tablets or dragees, in which the units of active substances are led through a microwave resonator and, from the displacement A of the resonant frequency and the broadening B of the resonance curve, the mass M is determined, with compensation of the influence of the moisture, by means of a mathematical combination of the two measured variables, which comprises a linear expansion of M with respect to A, each of the coefficients representing a linear expansion with respect to F, where  $F=B/A$ .

2. The method as claimed in claim 1, wherein the mass is determined with the aid of the relationship

$$M = k_1 \cdot (1 + k_2 \cdot F) \cdot A$$

where  $k_1$  and  $k_2$  are constants, of which  $k_2$  depends on the unit of active substances examined and  $F=B/A$ .

3. The method as claimed in claim 1, wherein the moisture is additionally determined.

4. The method for determining the mass of portioned units of active substances which comprise a casing and the active substance contained therein, as claimed in claim 1, wherein the mass of the casing without active substance and then the total mass of the unit of active substances following filling with the active substance are determined.

5. The method as claimed in claim 4, wherein the empty casings are sorted by mass and are then filled batchwise and the total mass is determined.

6. The method as claimed in claim 4, wherein the mass of the casing is determined immediately before filling.

7. The method as claimed claim 1, wherein microwaves with frequencies  
5 from 1 to 60 GHz, in particular 2 to 30 GHz, are used.

8. An apparatus for determining the mass of portioned units of active substances, in particular capsules, tablets or dragees, which comprises a microwave generator, a microwave resonator, a device for guiding the units of  
10 active substances through the microwave resonator, measuring and evaluation electronics for determining the mass from the displacement A of the resonant frequency and the broadening B of the resonance curve, and a device for removing individual units of active substances.

15 9. The apparatus as claimed in claim 7, wherein the devices for guiding the units of active substances have a tube, through which the units of active substances are conveyed by an air stream.

10 10. The apparatus as claimed in claim 7, wherein the devices for guiding the units of active substances have an endless belt with depressions, into which the units of active substances are inserted.

11. The apparatus as claimed in claim 7, wherein the devices for guiding the units of active substances have a circular disk, on the circumference of  
25 which the units of active substances are held firmly with the aid of vacuum.

12. The apparatus as claimed in claim 10, wherein devices are provided for determining a mass value of the carrying device for the units of active substances.

30 13. The apparatus as claimed in claim 8 for determining the mass of units of active substances which comprise a casing and the active substance contained therein, wherein it has a second microwave resonator with

measuring and evaluation electronics for determining the mass of the units of active substances before filling.

14. The method as claimed in claim 2, wherein the moisture is additionally  
5 determined.

15. The method for determining the mass of portioned units of active substances which comprise a casing and the active substance contained therein, as claimed in claim 2, wherein the mass of the casing without active  
10 substance and then the total mass of the unit of active substances following filling with the active substance are determined.

16. The method for determining the mass of portioned units of active substances which comprise a casing and the active substance contained  
15 therein, as claimed in claim 3, wherein the mass of the casing without active substance and then the total mass of the unit of active substances following filling with the active substance are determined.

17. The apparatus as claimed in claim 8, wherein the devices for guiding  
20 the units of active substances have a tube, through which the units of active substances are conveyed by an air stream.

18. The apparatus as claimed in claim 8, wherein the devices for guiding the units of active substances have an endless belt with depressions, into  
25 which the units of active substances are inserted.

19. The apparatus as claimed in claim 8, wherein the devices for guiding the units of active substances have a circular disk, on the circumference of which the units of active substances are held firmly with the aid of vacuum.  
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20. The apparatus as claimed in claim 11, wherein devices are provided for determining a mass value of the carrying device for the units of active substances.